AMENDMENTS

In the claims:

Please amend the claim set to read as follows:

1. (currently amended): A system for controlling a medical data acquisition process, comprising a data acquisition apparatus controller for controlling data acquisition apparatus to acquire medical data from a subject;

> an agent administration controller for controlling a device to administer an agent to the subject;
> a medical data processor for receiving the medical data from the data acquisition apparatus and processing it to analyze in real time the behavior of the agent in the subject;
> a protocol controller for controlling the data acquisition apparatus controller and the agent administration controller to adjust parameters in real time of the data acquisition process in response to ~~processed medical data results~~ the analyzed real time behavior of the agent in the subject from the medical data processor.

2. (original): A system according to claim 1 wherein the device to administer an agent to the subject is an automatic drug delivery device.

3. (original): A system according to claim 1 wherein the agent is a pharmaceutical agent.

4. (original): A system according to claim 1 wherein the agent is an imaging agent, the data acquisition apparatus is an imaging apparatus and the medical data processor is an image processor.

5. (original): A system according to claim 4 wherein the imaging agent is a contrast agent for selectively enhancing the contrast of at least one region of the subject.

6. (original): A system according to claim 1 wherein the data acquisition apparatus is a spectroscopy apparatus and the medical data processor is a spectral data processor for processing data acquired by the spectroscopy apparatus.

7. (original):   A system according to claim 1 wherein the protocol controller controls the relative timing of data acquisition and agent administration, via the data acquisition apparatus controller and the agent administration controller respectively, in response to processed medical data results from the medical data processor.

8. (original):   A system according to claim 1 wherein the protocol controller controls the agent administration controller to control the amount of agent administered to the subject in response to processed medical data results from the medical data processor.

9. (original):   A system according to claim 1 wherein the protocol controller controls the agent administration controller to control the type of agent administered to the subject in response to processed medical data results from the medical data processor.

10. (original):   A system according to claim 1 wherein the protocol controller controls the data acquisition apparatus controller to control the mode of data acquisition to acquire data in at least two different modes in response to processed medical data results from the medical data processor.

11. (original):   A system according to claim 1 wherein the protocol controller is responsive to additional data acquired from the subject independently of the medical data acquisition apparatus.

12. (original):   A system according to claim 1 wherein the medical data is acquired *in vivo* from a human, animal or plant as said subject.

13. (original):   A system according to claim 1 wherein the medical data is acquired *in vitro*.